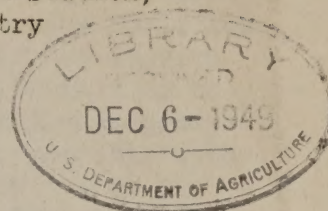


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PUBLICATIONS WITH ABSTRACTS
FRUIT AND VEGETABLE BYPRODUCTS LABORATORY
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New--nectar made from fresh prunes. C. W. Eddy and M. K. Veldhuis. Food Indus. 14(3):46-47. March, 1942. Reports that fresh Italian prunes have been used in preparation of a new product--prune nectar, which is rich in color and of pleasing taste and aroma. The product offers excellent opportunities as an outlet for culls.

Effect of filtration on appearance, viscosity, and alcohol-insoluble fractions of apple juice. A. M. Neubert. Food Res. 8 (6):477-483. Nov.-Dec., 1943. Raw unheated juice, flash-heated and cooled juice, and juices clarified by enzyme treatment and by gelatin-tannin fining were investigated. Seven grades of Seitz filter sheets and Whatman No. 2 filter paper were used as filtering mediums. Changes caused by filtration were compared with those caused by centrifuging juice.

The effect of concentration on composition and properties of rediluted apple juice. A. M. Neubert. Fruit Prod. Jour. and Amer. Food Mfr. 23(6):166-169. Feb., 1944. Results indicate that with certain precautions apple juice can be concentrated, either by vacuum distillation or by freezing, and rediluted without seriously affecting its chemical composition. Ordinary vacuum distillation results in loss of aroma, but methods of recovering these volatile fractions have been developed which reduce this loss. Because detection of aroma is dependent on the variable human factor, its value in identifying rediluted products is limited in any case. Changes in viscosity, alcohol precipitate, and pectic acid were considered of no value in detecting products prepared from concentrates, because differences between fresh and reconstituted juice were smaller than normal variations found among fresh and preserved apple juices. Other properties of apple juice commonly determined in ascertaining adulteration were not noticeably altered by concentration.

Freestone peach varieties for canning in Washington. M. K. Veldhuis and A. M. Neubert. Fruit Prod. Jour. and Amer. Food Mfr. 23 (8):229-233. Apr., 1944. Of 46 varieties reported the Elberta, Gold Medal, and Early Elberta are most desirable for canning. These varieties do not meet all requirements desired in freestone peaches intended for canning, because they occasionally exhibit semi-cling pits. A number of other varieties are suggested to permit a lengthening of canning season, even though they require special attention in harvesting to assure satisfactory texture. Among these are Shalil, Golden Jubilee, July Elberta, Valiant, Mowery, South Haven, and Hale Haven. Soft fibrous texture when canned is most frequently encountered defect in freestone peach varieties, although clinging pits and discoloration in the can make several undesirable. J. H. Hale, Rio-Oso-Gem, and Candoka are among those that occasionally discolor severely in the can.

Effect of storage on canning quality of Elberta peaches. M. K. Veldhuis and A. M. Neubert. Fruit Prod. Jour. and Amer. Food Mfr. 23(9):276-281. May, 1944. Effect of storage at 31°, 37°, and 45°F. on canning qualities of Elberta peaches was studied. Data show that storage did not improve canning qualities but under proper conditions fruit could be held up to 3 or 4 weeks, and still be acceptable. If storage for canning is necessary, it is suggested that temperature be as near 31°F. as possible without danger of freezing and that maturity of fruit be within 5 days of full canning ripeness. If fruit is not at this maturity when received, it appears desirable to allow it to ripen before storage. Storage period should not be longer than necessary and should not exceed 4 weeks. Badly bruised fruit should not be stored.

Cleaning vined canning peas by froth flotation, removal of nightshade. M. K. Veldhuis and A. M. Neubert. West. Canner and Packer 36(6):18. May, 1944. A preliminary report of studies on a new process for removing nightshade berries, tarweed seed, and other foreign material from vined green peas. Process involves froth flotation and makes use of small air bubbles to float away undesirable material. Successful pilot plant tests were made.

Effect of harvest maturity on canning quality of Western-grown Elberta peaches. A. M. Neubert, M. K. Veldhuis, and M. J. Clore. Fruit Prod. Jour. and Amer. Food Mfr. 23(10):292-297. June, 1944. Quality of canned soft-ripe freestone peaches is markedly affected by maturity of fruit when harvested. Effect of harvest maturity on canning quality of Elberta peaches grown in Washington are described, and data on size, color, firmness, time required to ripen, wilting losses, yield of cans, and quality of canned fruit are presented. The most satisfactory harvest maturity for peaches, as grown in the Pacific Northwest, was found when fruit was about 75 percent yellow and gave an average pressure test on peeled fruit of approximately 4 pounds with a 7/16-inch plunger to approximately 9 pounds with a 5/16-inch plunger. Such fruit required from 3 to 7 days to ripen for canning. Color-picking, involving 2 or more harvests, would appear necessary to attain this maturity throughout a harvest.

Clouding and sedimentation in clarified apple juice. A. M. Neubert and M. K. Veldhuis. Fruit Prod. Jour. and Amer. Food Mfr. 23(11):324-328. July, 1944. Clouding and Sedimentation in clarified apple juice and methods for its control were investigated and a study of the sediment was made. No dependable method for controlling or delaying sedimentation was found and its formation appeared to be quite general during storage of pasteurized, clarified juice regardless of variety or maturity of apples or methods used to attain clarification. Juice clarified by means of pectin-decomposing enzymes in general deposited a greater amount of sediment after a shorter storage period than did other methods. Juices varied widely in storage period required before sedimentation occurred, in some cases remaining clear for over two years, which may account for discrepancies in the literature regarding methods of preventing its formation. Sediment obtained from apple juice was tentatively identified as photophene.

Research shows effects of maturity and storage on canned Pacific NW free-stones. A. M. Neubert and M. K. Veldhuis. West. Canner and Packer.

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36(9):23. Aug., 1944. Investigations were made on suitability of varieties for canning and effects of harvest maturity, ripening procedure, and storage on canning quality of fruit. A summary of results of these investigations are presented. Elberta, Early Elberta, and Gold Medal were considered best canning varieties. Best-quality canned Elberta peaches were obtained from fruits harvested when ground color was about 75 percent yellow and firmness ranged from four pounds with a 7/16-inch plunger to eight pounds with a 5/16-inch plunger. Elberta peaches ripened at 75°F. over a wide range of humidity consistently yielded a canned product of good quality. Low-temperature storage did not improve canning quality but when ripe fruit was stored at 31°F., an acceptable product was obtained after as long as 4 weeks' storage.

Ripening Washington-grown Elberta peaches for canning. A. M. Neubert and M. K. Veldhuis. Fruit Prod. Jour. and Amer. Food Mfr. 23(12):357-360. Aug., 1944. Studies were conducted on effect of several ripening procedures on canning quality of Washington-grown Elberta peaches. Special attention was given to influence of temperature and humidity during ripening on rate of ripening, wilting during ripening, peeling and pitting characteristics, and color, flavor, and texture of canned product. Rate of ripening after harvest was accelerated by increasing temperature. Characteristic color of canned peaches became progressively deeper yellow as ripening temperature and humidity increased, but high temperatures, particularly under conditions of high humidity, should be avoided if best flavor and peeling characteristics are obtained. Most satisfactory ripening temperature was 75°F.

Variations in acidity of Concord grape juice. D. R. McCormick, M. K. Veldhuis, and J. L. St. John. Fruit Prod. Jour. and Amer. Food Mfr. 24(4):101-102. Dec., 1944. The main purpose of this investigation was to obtain information on variations of malic and free tartaric acids in juices obtained from several principal producing sections. Whereas cream of tartar content can be controlled to a certain extent by the processor, malic and free tartaric acids can not. It was found that content of free tartaric acid varied from none to 0.26 gram per 100 ml. and that of malic acid from 0.22 to 0.44 per 100 ml.

Cleaning vined canning peas by froth flotation. A. M. Neubert and M. K. Veldhuis. Food Indus. 17(5):494-497. May, 1945. This process removes troublesome foreign materials, thus saving labor on inspection line. Air bubbles can be attached selectively to materials to float them off. Principles of the process might be applied in other fields. It involves use of an oil-in-water emulsion into which air is incorporated as small bubbles. A foaming agent is used to maintain stability of foam and to aid in emulsifying oil. Density of mixture in separation unit varies with amount of separation of foam. At no point does it appreciably exceed that of water, and in certain parts of the mixture it is well below 0.7. Details of equipment design, reagents, and operation are given.

Factors influencing color of canned freestone peaches. A. M. Neubert and G. H. Carter. West. Canner and Packer 38(11):56-59. Oct., 1946. A study of influence of processing methods on color of canned freestone peaches.

Methods of delaying discoloration from oxidation before cooking and of reducing this discoloration by processing were studied. Methods of improving color of canned peaches through control of exhaust and sealing procedures were investigated. Discoloration from oxidation after peeling was effectively retarded by increasing to 90 seconds steaming time used to loosen skins. Similar results were obtained by immersing peeled fruit for one minute in either a 2-percent solution of citric acid, a 2-percent solution of sodium chloride, or a 0.5-percent solution of hydrochloric acid. Chemical dips were not considered necessary if a sufficiently long steaming time was used to loosen skins. Discoloration already present was reduced to a minimum in canned product by decreasing oxygen in container at time of sealing and also by increasing time of steam exhaust. Value of extending steam exhaust time as much as possible, consistent with practical can vacuum, was demonstrated as means of removing chalky areas in flesh and thereby improving color of canned peaches. Sealing cans with a minimum of entrapped atmospheric oxygen proved desirable in preventing darkening, in obtaining a clearer sirup, and in hastening disappearance of red color in sirup.

